

Title (en)

Method of fabricating an SOI wafer and SOI wafer fabricated thereby

Title (de)

Herstellungsverfahren für eine SOI-Scheibe und damit produzierte SOI-Scheibe

Title (fr)

Procédé de fabrication d'une pastille SOI et la pastille SOI fabriqué par ce procédé

Publication

EP 0905767 A1 19990331 (EN)

Application

EP 98307095 A 19980903

Priority

JP 27987897 A 19970926

Abstract (en)

In a method of fabricating an SOI wafer, an oxide film is formed on the surface of at least one of two silicon wafers; hydrogen ions or rare gas ions are implanted into the upper surface of one of the two silicon wafers in order to form a fine bubble layer (enclosed layer) within the wafer; the ion-implanted silicon wafer is superposed on the other silicon wafer such that the ion-implanted surface comes-into close contact with the surface of the other silicon wafer via the oxide film; heat treatment is performed in order to delaminate a portion of the ion-implanted wafer while the fine bubble layer is used as a delaminating plane, in order to form a thin film to thereby obtain an SOI wafer. In the method, a defect layer at the delaminated surface of the thus-obtained SOI wafer is removed to a depth of 200 nm or more through vapor-phase etching, and then mirror polishing is performed. Therefore, the obtained SOI wafer has an extremely low level of defects and a high thickness uniformity. <IMAGE>

IPC 1-7

H01L 21/762; **H01L 21/20**; **H01L 21/302**

IPC 8 full level

H01L 21/265 (2006.01); **H01L 21/02** (2006.01); **H01L 21/762** (2006.01); **H01L 27/12** (2006.01)

CPC (source: EP KR US)

H01L 21/20 (2013.01 - KR); **H01L 21/76251** (2013.01 - EP US); **H01L 21/76254** (2013.01 - EP US)

Citation (search report)

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- [A] EP 0797248 A2 19970924 - SHINETSU HANDOTAI KK [JP]
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Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

EP 0905767 A1 19990331; JP 3324469 B2 20020917; JP H11102848 A 19990413; KR 100562437 B1 20060703; KR 19990030065 A 19990426; US 6140210 A 20001031

DOCDB simple family (application)

EP 98307095 A 19980903; JP 27987897 A 19970926; KR 19980039446 A 19980923; US 15985698 A 19980924